AMENDMENTS TO THE CLAIMS

1. (Withdrawn) An apparatus for the detection of contaminates of a fluid in a conduit, the conduit being part of a fluid distribution system, comprising:

a chemical or biological sensor array connected to the conduit, said sensor array producing an acoustic signal burst in the fluid upon detection of contaminates in the fluid; and a

a supervisory control system connected to the fluid and operatively connected to the fluid distribution system, that signals the fluid distribution system upon detection of the contaminates in the fluid.

2. (Withdrawn) The apparatus of claim 1 wherein said sensor array is a chemical sensor array.

3. (Withdrawn) The apparatus of claim 1 wherein said sensor array is a biological sensor array.

4. (Withdrawn) The apparatus of claim 1 wherein said sensor array is a biological materials sensor array.

5. (Withdrawn) The apparatus of claim 1 wherein said sensor array is a biochemicals sensor array.

6. (Withdrawn) The apparatus of claim 1 wherein said sensor array is a sporulated bacteriological sensor array.

7. (Withdrawn) The apparatus of claim 1 wherein said sensor array is a viral organisms sensor array.

8. (Withdrawn) The apparatus of claim 1 wherein said sensor array is a microbial organisms sensor array.

9. (Withdrawn) The apparatus of claim 1 wherein said sensor array is an elemental chlorine sensor array.

10. (Withdrawn) The apparatus of claim 1 wherein said sensor array is an oxidative oxy-halogen compounds sensor array.

11. (Withdrawn) The apparatus of claim 1 wherein said sensor array is an ozone sensor array.

12. (Withdrawn) The apparatus of claim 1 wherein said sensor array is an oxygen sensor array.

13. (Withdrawn) The apparatus of claim 1 wherein said sensor array is a peroxydisulfate sensor array.

14. (Withdrawn) The apparatus of claim 1 wherein said sensor array is a strong reducing agents sensor array

15. (Withdrawn) The apparatus of claim 1 wherein said sensor array is a hyposulfite sensor array.

16. (Withdrawn) The apparatus of claim 1 wherein said sensor array is a thiosulfate sensor array.

17. (Withdrawn) The apparatus of claim 1 wherein said sensor array is a sulfide sensor array.

18. (Withdrawn) The apparatus of claim 1 wherein said sensor array is a $H_2S$ sensor array.

19. (Withdrawn) The apparatus of claim 1 wherein said sensor array is a cyanide sensor array.

20. (Withdrawn) The apparatus of claim 1 wherein said sensor array is a selenium sensor array.

21. (Withdrawn) The apparatus of claim 1 wherein said sensor array is a lead sensor array.

22. (Withdrawn) The apparatus of claim 1 wherein said sensor array is a mercury sensor array.

23. (Withdrawn) The apparatus of claim 1 wherein said sensor array is an arsenic sensor array.

24. (Withdrawn) The apparatus of claim 1 wherein said sensor array is a nerve agents sensor array.

25. (Withdrawn) The apparatus of claim 1 wherein said sensor array is a blistering agents sensor array.

26. (Withdrawn) The apparatus of claim 1 wherein said sensor array is a VX sensor array.

27. (Withdrawn) The apparatus of claim 1 wherein said sensor array is a Lewisite sensor array.

28. (Withdrawn) The apparatus of claim 1 wherein said sensor array is a G-agents sensor array.

29. (Withdrawn) The apparatus of claim 1 wherein said sensor array is a phosgene sensor array.

30. (Withdrawn) The apparatus of claim 1 wherein said sensor array is a mustard gases sensor array.

31. (Withdrawn) The apparatus of claim 1 wherein said sensor array is a radiological sensor array.

32. (Withdrawn) The apparatus of claim 1 wherein said sensor array is an actinides sensor array.

33. (Withdrawn) The apparatus of claim 1 wherein said sensor array is a radioactive isotopes sensor array.

34. (Withdrawn) The apparatus of claim 1 wherein said sensor array is a radioactive iodine sensor array.

35. (Withdrawn) The apparatus of claim 1 wherein said sensor array is a radioactive cesium sensor array.

36. (Withdrawn) The apparatus of claim 1 wherein said sensor array is a radioactive strontium sensor array.

37. (Withdrawn) The apparatus of claim 1 wherein said sensor array is a thorium sensor array.

38. (Withdrawn) The apparatus of claim 1 wherein said sensor array is a radioactive cobalt sensor array.

39. (Withdrawn) The apparatus of claim 1 wherein said sensor array is a radioactive thorium sensor array.

40. (Withdrawn) The apparatus of claim 1 wherein said sensor array is a sensor array that detects a loss of chlorination shield.

41. (Withdrawn) The apparatus of claim 1 wherein said sensor array is a sensor array that detects a change in redox potential.

42. (Withdrawn) The apparatus of claim 1 wherein said sensor array is a sensor array that detects a 30 mV drop in redox potential.

43. (Withdrawn) The apparatus of claim 1 wherein said sensor array comprise a pair of electrodes.

44. (Withdrawn) The apparatus of claim 1 wherein said sensor array includes a Platinum or graphite coated electrode.

45. (Withdrawn) The apparatus of claim 1 wherein said sensor array includes a reference electrode.

46. (Withdrawn) The apparatus of claim 1 wherein said sensor array includes a Ag/AgCl reference electrode.

47. (Withdrawn) The apparatus of claim 1 wherein said sensor array includes Platinum or graphite coated electrode and a reference electrode.

48. (Withdrawn) The apparatus of claim 1 wherein said sensor array includes a specific ion electrode.

49. (Withdrawn) The apparatus of claim 1 wherein said sensor array comprise a pair of electrodes and a pH sensor.

50. (Withdrawn) The apparatus of claim 1 wherein said supervisory control system includes communications unit operatively connected to the fluid distribution system that signals the fluid distribution system upon detection of the contaminates in the fluid.

51. (Withdrawn) The apparatus of claim 1 wherein said supervisory control system includes radio communications unit operatively connected to the fluid distribution system that signals the fluid distribution system upon detection of the contaminates in the fluid.

52. (Withdrawn) An apparatus for the detection of contaminates of a fluid in a pipe, the pipe being part of a fluid distribution system, comprising:

sensor means connected to the pipe for producing an acoustic signal burst in the fluid upon detection of contaminates in the fluid; and a

supervisory control means connected the fluid and operatively connected to the fluid distribution system for signaling the fluid distribution system upon detection of the contaminates in the fluid.

53. (Withdrawn) The apparatus for the detection of contaminates of a fluid in a pipe of claim 52 where said sensor means is a chemical sensor for detecting chemical contaminates in the fluid.

54. (Withdrawn) The apparatus for the detection of contaminates of a fluid in a pipe of claim 52 where said sensor means is a biological sensor for detecting biological contaminates in the fluid.

55. (Withdrawn) The apparatus for the detection of contaminates of a fluid in a pipe of claim 52 where said sensor means is a means for detecting biochemicals or sporulated bacteria or viral organisms or microbial organisms or elemental chlorine or oxidative oxy-halogen compounds or ozone or oxygen or

peroxydisulfate or strong reducing agents or hyposulfite or thiosulfate or sulfide or $H_2S$ or cyanide or selenium or lead sensor or mercury or arsenic or nerve agents or blistering or VX or Lewisite or G-agents or phosgene or gas or actinides or radioactive isotopes or radioactive iodine or radioactive cesium or radioactive strontium sensor or thorium or radioactive cobalt or radioactive thorium.

56. (Currently Amended) A method of providing early warning of contamination of water in a municipal water distribution system by detecting ~~of~~ chemical or biological agent contaminates introduced into the water of the municipal water distribution system wherein the municipal water distribution system utilizes a water filled pipe or water filled pipes extending from a water source to a supervisory control and data acquisition system ~~of a fluid in a pipe wherein the pipe is part of a fluid distribution system~~, comprising the steps of:

sensing biochemicals or sporulated bacteria or viral organisms or microbial organisms or elemental chlorine or oxidative oxy-halogen compounds or ozone or oxygen or peroxydisulfate or strong reducing agents or hyposulfite or thiosulfate or sulfide or $H_2S$ or cyanide or selenium or lead sensor or mercury or arsenic or nerve agents or blistering or VX or Lewisite or G-agents or phosgene or gas or actinides or radioactive isotopes or radioactive iodine or radioactive cesium or radioactive strontium sensor or thorium or radioactive cobalt or radioactive thorium contaminates that have been introduced into the water ~~in the fluid in the pipe~~,

producing an acoustic signal in the ~~fluid~~ water in the water filled pipe or water filled pipes upon the sensing of biochemicals or sporulated bacteria or viral organisms or microbial organisms or elemental chlorine or oxidative oxy-halogen compounds or ozone or oxygen or peroxydisulfate or strong reducing agents or hyposulfite or thiosulfate or sulfide or $H_2S$ or cyanide or selenium or lead sensor or mercury or arsenic or nerve agents or blistering or VX or Lewisite

or G-agents or phosgene or gas or actinides or radioactive isotopes or radioactive iodine or radioactive cesium or radioactive strontium sensor or thorium or radioactive cobalt or radioactive thorium contaminates that have been introduced into the water ~~in the fluid in the pipe~~,

using the water filled pipe or water filled pipes as wave-guides or channels for transmitting said acoustic signal,

receiving said acoustic signal in ~~the fluid in~~ the water filled pipe or water filled pipes wherein said acoustic signal has been transmitted using the water filled pipe or water filled pipes as wave-guides or channels, and

signaling the ~~fluid distribution~~ supervisory control and data acquisition system upon receiving said acoustic signal indicating said sensing of the biochemicals or sporulated bacteria or viral organisms or microbial organisms or elemental chlorine or oxidative oxy-halogen compounds or ozone or oxygen or peroxydisulfate or strong reducing agents or hyposulfite or thiosulfate or sulfide or $H_2S$ or cyanide or selenium or lead sensor or mercury or arsenic or nerve agents or blistering or VX or Lewisite or G-agents or phosgene or gas or actinides or radioactive isotopes or radioactive iodine or radioactive cesium or radioactive strontium sensor or thorium or radioactive cobalt or radioactive thorium contaminates that have been introduced into the water ~~in the fluid~~.

57. (Currently Amended) The method of providing early warning of contamination of water in a municipal water distribution system by detecting ~~of~~ chemical or biological agent contaminates introduced into the water of the municipal water distribution system ~~of a fluid in a pipe~~ of claim 56 wherein said step of sensing biochemicals or sporulated bacteria or viral organisms or microbial organisms or elemental chlorine or oxidative oxy-halogen compounds or ozone or oxygen or peroxydisulfate or strong reducing agents or hyposulfite or thiosulfate or sulfide or $H_2S$ or cyanide or selenium or lead sensor or mercury

or arsenic or nerve agents or blistering or VX or Lewisite or G-agents or phosgene or gas or actinides or radioactive isotopes or radioactive iodine or radioactive cesium or radioactive strontium sensor or thorium or radioactive cobalt or radioactive thorium contaminates that have been introduced into the water ~~in the fluid in the pipe~~ comprises sensing biochemicals or elemental chlorine or oxidative oxy-halogen compounds or ozone or oxygen or peroxydisulfate or strong reducing agents or hyposulfite or thiosulfate or sulfide or $H_2S$ or cyanide or selenium or lead sensor or mercury or arsenic or nerve agents or blistering or VX or Lewisite or G-agents or phosgene or gas or actinides or radioactive isotopes or radioactive iodine or radioactive cesium or radioactive strontium sensor or thorium or radioactive cobalt or radioactive thorium chemical contaminates that have been introduced into the water ~~in the fluid~~.

58. (Currently Amended) The method of providing early warning of contamination of water in a municipal water distribution system by detecting ~~of~~ chemical or biological agent contaminates introduced into the water of the municipal water distribution system ~~of a fluid in a pipe~~ of claim 56 wherein said step of sensing biochemicals or sporulated bacteria or viral organisms or microbial organisms or elemental chlorine or oxidative oxy-halogen compounds or ozone or oxygen or peroxydisulfate or strong reducing agents or hyposulfite or thiosulfate or sulfide or $H_2S$ or cyanide or selenium or lead sensor or mercury or arsenic or nerve agents or blistering or VX or Lewisite or G-agents or phosgene or gas or actinides or radioactive isotopes or radioactive iodine or radioactive cesium or radioactive strontium sensor or thorium or radioactive cobalt or radioactive thorium contaminates that have been introduced into the water ~~in the fluid in the pipe~~ comprises sensing sporulated bacteria or viral organisms or microbial organisms biological contaminates that have been introduced into the water ~~in the fluid~~.

59. (Canceled)